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L4: Entry 12 of 18

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TITLE: Wholly microfabricated biosensors and process for the manufacture and use thereof

DEPR:

Generally, a first member (e.g., the ligand receptor) is immobilized (e.g., by covalent attachment or adsorption) over a preselected area of the biosensor (preferably, above the indicator electrode). Next, the ligand or analyte species is allowed to bind to the first member, forming an affinity, immuno, complementary, or like complex. Depending upon the assay method employed (e.g., a sandwich assay), a second member with a suitable label is then introduced and binds to the analyte. Finally, a substrate for the enzyme label is introduced which is converted by a process initiated by the label. In such a fashion, electroactive species, such as dioxygen or hydrogen peroxide, are generated (or consumed), and the quantitative amounts of which are detected advantageously by the underlying base sensor. The second member and the substrate may be collectively referred to as reagents with which the sample suspected of containing the analyte species may be treated or combined. Such reagents may further comprise other components which may enhance the interaction of the reagent or reagents with the analyte species or to amplify the change in the concentration of detectable species so produced.